REMARKS

This Reply is in response to the Office Action mailed on September 28, 2004 in which Claims 1-42 were rejected. With this response, Claims 16 and 39 are cancelled; Claims 1, 19 and 41 are amended; and Claims 43-53 are added. Claims 1-53 are presented for reconsideration and allowance.

I. Objection to Claim 19.

Paragraph 1 of the Office Action objected to Claim 19 noting that "the support member" lacks antecedent basis. In response, Claim 19 is amended to replace "support member" with --second circuit board-- which has antecedent basis in Claim 19. Accordingly, Applicant respectfully requests withdrawal of the objection to Claim 19.

II. Double Patenting.

Paragraph 3 of the Office Action rejected Claims 1-19 and 26-39 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claims 1-20 of U.S. Patent No. 6,728,101. With this response, independent Claims 1 and 19 are amended to recite additional features which render Claims 1-19 and 26-39 patentably distinct over Claims 1-20 of U.S. Patent No. 6,728,101. Accordingly, Claims 1-19 and 26-39, as amended, overcome the rejection under the judicially created doctrine of obviousness-type double patenting.

III. Rejection of Claims 1-12, 15-18 and 41-42 Under 35 U.S.C. § 102(b) Based Upon Bachman.

Paragraph 5 of the Office Action rejected Claims 1-12, 15-18 and 41-42 under 35 U.S.C. § 102(b) as being anticipated by Bachman et al., U.S. Patent No. 5,923,531. Claims 1-12, 15-18 and 41-42, as amended; overcome the rejection based upon Bachman et al.

A. Claim 1.

Claim 1, as amended, recites a card support assembly which includes a plurality of printed heat generating circuit cards coupled to the support member, extending non-parallel from the support member and arranged end-to-end. The cards, collectively, have a front edge longitudinally spaced from a rear edge. The assembly further includes at least one flow control member that is substantially imperforate from the front edge to the rear edge. The at least one flow control member has a lower surface opposite an edge of one of the cards that is spaced less than 10 millimeters from the edge.

Bachman fails to disclose or suggest a card support assembly which includes a plurality of printed heat generating circuit cards arranged end-to-end and a flow control member and substantially imperforate from a collective front edge to a collective rear edge of the cards, wherein the lower surface of the at least one flow control member is spaced less than 10 millimeters from an edge of one of the cards. In contrast, cards 18, 20 of Bachman are not arranged end-to-end. Moreover, since cards 18, 20 are merely riser cards and are specifically configured to abut foam strip 74 of cover 72, it would not be obvious to modify cards 18, 20 to be end-to-end since the result would be that some of cards 18, 20 would not be in contact with foam strip 74. It is a well-settled principle that the proposed modification cannot render the prior art unsatisfactory for its intended purpose (see MPEP 2143.01). To alternatively arrange cards 18, 20 in an end-to-end relationship would destroy one of the intended functions of Bachman.

Although Bachman et al. does disclose DIMMs 40 arranged in an end-to-end relationship, the top of cage 12 is clearly not spaced less than 10 millimeters from the edge of such DIMMs 40. Nowhere does Bachman et al. disclose or suggest that the top of cage 12 is spaced less than 10 millimeters from edges of DIMMs 40. Thus, Claim 1, as amended, overcomes the rejection based upon Bachman. Claims 2-12 and 15-18 depend from Claim 1 and overcome the rejection for the same reasons.

B. Claim 41.

Claim 41, as amended, recites a method for assembling a card support. The method includes mounting a plurality of printed heat generating circuit cards in an end-to-end or staggered relationship to a support member, wherein the cards collectively have a first end edge longitudinally spaced from a second end edge. The method further includes mounting at least one flow control member and substantially imperforate from the first end edge to the second end edge proximate the plurality of cards and spaced from the cards by less than 10 millimeters.

Bachman fails to disclose or suggest a method for assembling a card support which includes mounting a plurality of printed heat generating circuit cards in an end-to-end or staggered relationship and mounting a substantially imperforate flow control member spaced from the cards by less 10 millimeters and extending from the first end edge to the second end edge. In contrast, none of cards 18, 20 are mounted in an end-to-end relationship or a staggered relationship. Moreover, DIMMs are not spaced from a lower surface of the top of cage 12 by less than 10 millimeters. Thus, Claim 41, as amended, overcomes the rejection based upon Bachman. Claim 42 depends from Claim 41 and overcomes the rejection for the same reasons.

IV. Rejection of Claims 19, 22, 24, 26-35 and 38-39 Under 35 U.S.C. § 102(b) Based Upon Bachman.

Paragraph 6 of the Office Action rejected Claims 19, 22, 24, 26-35 and 38-39 under 35 U.S.C. § 102(b) as being anticipated by Bachman et al., U.S. Patent No. 5,923,531. With this response, Claim 39 is cancelled and Claim 19 is amended. Claims 19-22, 24, 26-35 and 38, as amended, overcome the rejection.

A. Claim 19.

Claim 19, as amended, recites a computing device which includes a plurality of printed heat generating circuit cards coupled to a circuit board and including first and second cards arranged in an end-to-end relationship or a staggered

relationship, wherein the plurality of cards, collectively, have a front edge longitudinally spaced from a rear edge. The device further includes at least one flow control member substantially imperforate from the front edge to the rear edge and having a lower surface spaced less than 10 millimeters from an edge of the first card.

Bachman fails to disclose or suggest a computing device having a plurality of heat generating circuit cards including a first card and a second card arranged in an end-to-end relationship or a staggered relationship, and at least one flow control member that is substantially imperforate from a collective front edge to a collective rear edge of the cards and that is spaced less than 10 millimeters from the first card. The Office Action characterizes cards 18, 20 as the recited "heat generating circuit cards of Claim 19." However, cards 18, 20 of Bachman are not arranged in an end-to-end relationship or a staggered relationship. Although Figure 6 appears to illustrate DIMMs 40 of Bachman as being arranged in an end-to-end relationship, the upper edge of DIMMs 40 are not disclosed as being spaced less than 10 millimeters from the lower surface of the top panel of cage 12. Further, Bachman fails to provide any teaching or motivation for modifying the relative positioning of DIMMs 40 and cage 12. Thus, Claim 19, as amended, overcomes the rejection based upon Bachman. Claims 22, 24, 26-35 and 38 depend from Claim 19 and overcome the rejection for the same reasons.

V. Rejection of Claims 13-14 and 36-37 Based Upon Bachman and Baik.

Paragraph 8 of the Office Action rejected Claims 13-14 and 36-37 under 35 U.S.C. § 103(a) as being unpatentable over Bachman et al. in view of Baik, U.S. Patent No. 6,466,448. Claims 13 and 14 and 36-37 depend from independent Claims 1 and 19 and overcome the rejections based upon Bachman in view of Baik for the same reasons discussed above with respect to Claims 1 and 19. Claims 13 and 37 are further directed to a spacer that is integrally formed as a single unitary body with the at least one flow control member and that extends between the first and second opposite faces of adjacent cards.

Neither Bachman nor Baik, alone or in combination, discloses or suggests a spacer that is integrally formed as a single unitary body with the at least one flow control member and that extends between the first face and the second face adjacent first and second cards. In recognition of the fact that Bachman fails to disclose a spacer coupled to the at least one flow control member, the Office Action additionally relies upon Baik. In rejecting Claims 14 and 37, the Office Action asserts that:

> Baik teaches a card support assembly (20, fig. 1) comprising a flow control member (34, fig. 4) and a spacer (58, fig. 4) being integrally formed as a single unitary body with the flow control member (shown in fig. 5).

However, as shown by Figure 5, gasket 58 (characterized as the spacer) is not integrally formed as a single unitary body with air ducting plate 34. In fact, Bachman specifically states that "The gasket 58 is attached on the bottom surface of a horizontal portion 62 of the retaining and air ducting plate 34." (Emphasis added) (Col. 6, lines 65-67). Thus, the rejection of Claims 14 and 37 based upon Bachman in view of Baik is improper and should be withdrawn.

VI. Rejection of Claims 20-21, 23, 25, 36-37 and 40 Under 35 U.S.C. § 103(a) Based Upon Bachman in view of Marconi.

Paragraph 9 of the Office Action rejected Claims 20-21, 23, 25, 36-37 and 40 under 35 U.S.C. § 103(a) as being unpatentable over Bachman et al., in view of Marconi et al., U.S. Patent No. 5,991,163. Claims 20-21, 23, 25, 36-37 and 40 depend from Claim 19 and overcome the rejection based upon Bachman in view of Marconi for the same reasons discussed above with respect to Claim 19.

With respect to the rejection of Claims 36 and 37, Applicant respectfully notes that nowhere does paragraph 9 provide any support for its rejection based upon Marconi et al. Marconi et al. fails to disclose a spacer coupled to a flow control member or a spacer that is integrally formed as part of a single unitary body with the

flow control member. Accordingly, the rejection of Claims 36 and 37 based upon Marconi is improper and should be withdrawn.

VII. Added Claims.

With this Reply, Claims 43-53 are added. Claims 43-53 are believed to be patentably distinct over the prior art of record.

A. Claims 43-45 and 48-50.

Claims 43 and 48 depend from Claims 13 and 36, respectively, and additionally recite that the spacer is rigid. Claims 44 and 49 depend from Claims 13 and 36, respectively, and additionally recite that the spacer comprises a tab. Claims 45 and 50 depends from Claims 13 and 36, respectively, and additionally recite that the flow control member is formed from sheet metal and that the spacer comprises a bent portion of the sheet metal.

The prior art of record fails to disclose or suggest a spacer which is rigid, a spacer which comprises a tab or a spacer which comprises a bent portion of the sheet metal of the flow control member. At most, Baik merely discloses a flexible compressible gasket 58.

B. Claims 46-47 and 51.

Claims 46 and 51 depend from Claims 11 and 34, respectively, and recite that the spacer is distinct from the shock absorber. Claim 47 depends from Claim 46 and further recites that the spacer has a first compressibility and that the shock absorber has a second greater compressibility.

The prior art of record claims to disclose or suggest an assembly or a device which includes both a shock absorber and a spacer distinct from the shock absorber. Moreover, the prior art of record fails to disclose or suggest a spacer having a first compressibility and a shock absorber having a second greater compressibility. In contrast, Baik merely discloses a gasket 58.

C. Claims 52 and 53.

Added Claim 52 is directed to a card support assembly that includes a plurality of printed heat generating circuit cards coupled to a support member and at least one flow control member is substantial imperforate and extends from a collective edge to a rear collective edge of the plurality of heat generating circuit cards. Claim 52 further recites that the plurality of cards includes a first card having a first face and a second card having a second face facing the first face. The assembly also includes a rigid spacer coupled to the at least one flow control member and extending between the first face and the second face.

The prior art of record fails to disclose the assembly of Claim 52 which includes a rigid spacer extending between opposite faces of adjacent cards. For example, gasket 58 of Baik is not rigid. Baik specifically states that "The gasket 58 is preferably formed of a resilient compressible polyurethane or other foam or flexible material." (Col. 6, lines 46-48).

Claim 53 depends from Claim 52 and further recites that the assembly includes a shock absorber distinct from the spacer. Nowhere does Baik, Bachman or the prior art of record disclose or suggest both a shock absorber and a rigid spacer.

VIII. Conclusion.

After amending the claims as set forth above, claims 1-53 are now pending in this application.

Applicant believes that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 08-2025. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 08-2025. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 08-2025.

Respectfully submitted,

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